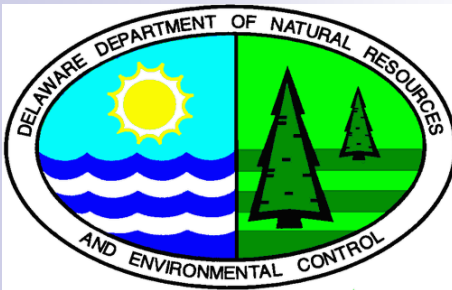


**7 DE Admin Code 1138
Section 8**



***Emission Standards for
Halogenated Solvent
Cleaning***



**Public Hearing
August 24, 2011**

Blue Skies Delaware; Clean Air for Life

Regulating Hazardous Air Pollutants

**40
CFR
Part 63**



At the National Level



Blue Skies Delaware; Clean Air for Life

1970



- Congress sought to reduce the Publics' Risk from exposure to toxics

Congress's mandate to EPA

- **Identify** toxic hazardous air pollutants (HAPs)
- **Establish** a numerical emission limits **and promulgate** standards that would protect human health from any adverse effects of these HAPs



1973 to 1990

- **Seven** HAPs identified
- **21** Emission standards promulgated

	'73 – '80	'81 – '85	'86 – '90	'91 – '92
Arsenic			3	
Asbestos		1		
Benzene		1	4	
Beryllium	2			
Mercury	1			
Radionuclides			7	1
Vinyl chloride	1			

NESHAP – National Emissions Standard for Hazardous Air Pollutants

Blue Skies Delaware; Clean Air for Life



Clean Air Act Amendments of 1990

- **Congress** identified 189
Hazardous Air Pollutants
or HAPs

- Including . . .

- Trichloroethylene
- Methylene chloride
- Chloroform
- Perchloroethylene
- Carbon tetrachloride
- 1, 1, 1 Trichloroethane



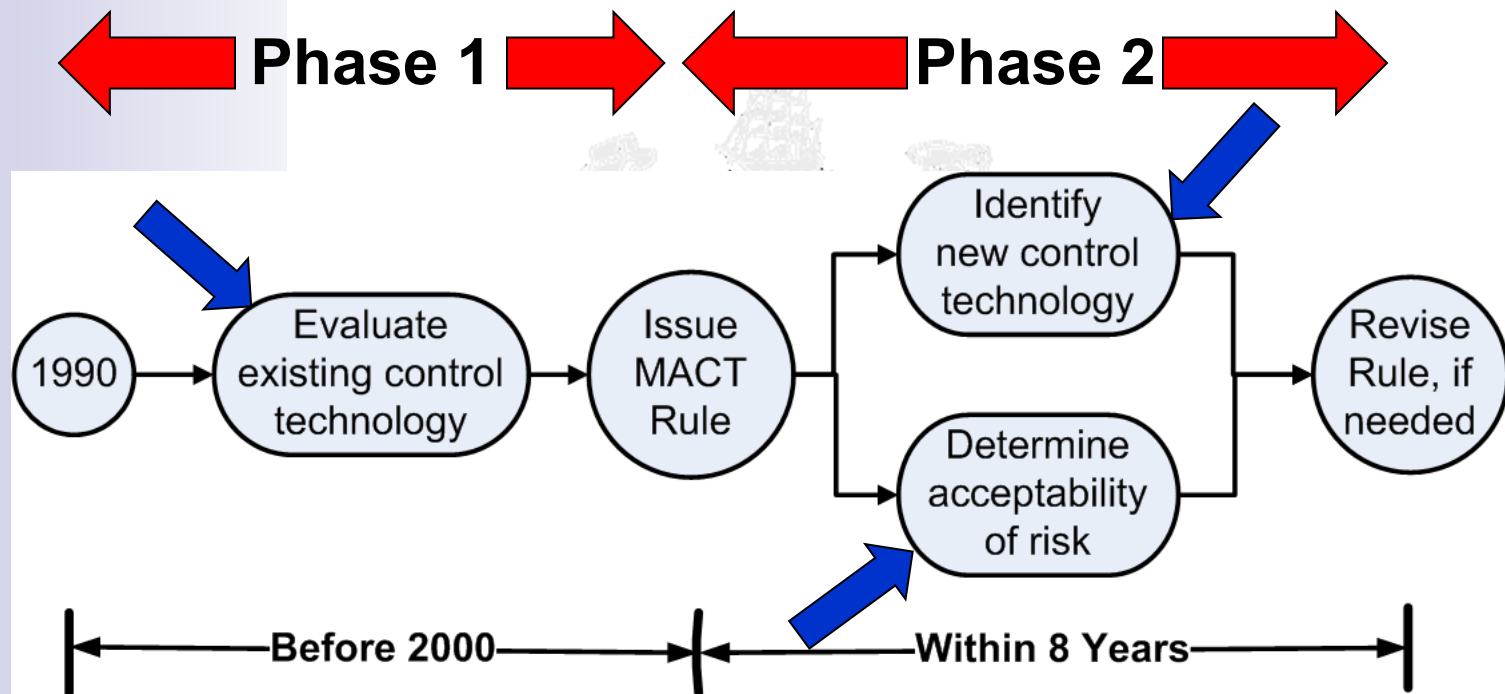
Clean Air Act Amendments of 1990

- **Congress** directed the EPA to **identify emission sources** of those 189 HAPs
- **July 16, 1992** - EPA published its initial listing of source categories
- Including in that listing was
 - Halogenated solvent cleaners



Clean Air Act Amendments of 1990

- **Congress** even prescribed EPA's rule-making "path forward"



MACT – Maximum Achievable Control Technology

Blue Skies Delaware; Clean Air for Life



Federal Halogenated Solvent Cleaning Rule

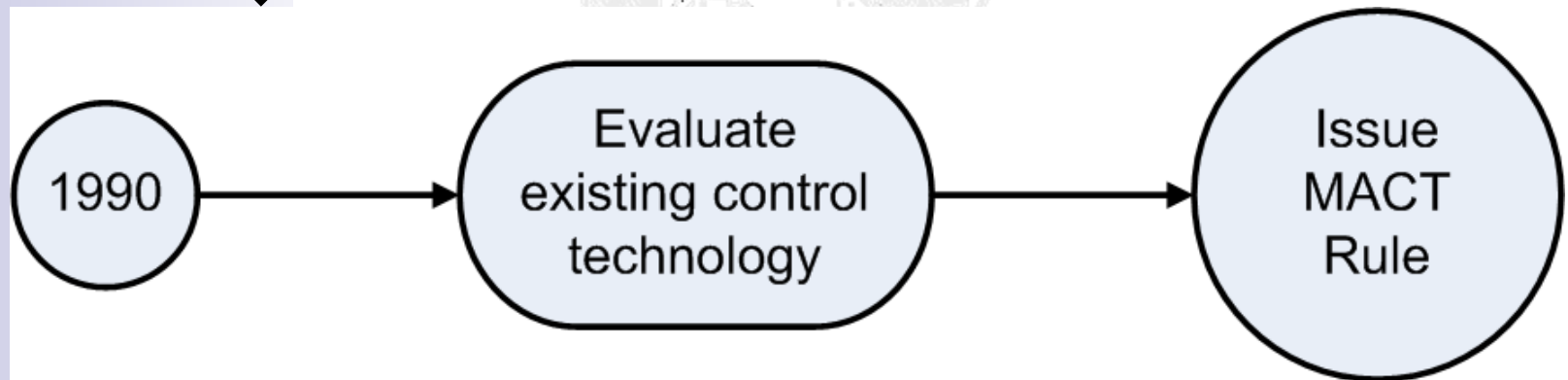
40 CFR Part 63 Subpart T - PHASE 1

July 16, 1992

Halogenated
Solvent Cleaning
Listed



#5



MACT – Maximum Achievable Control Technology

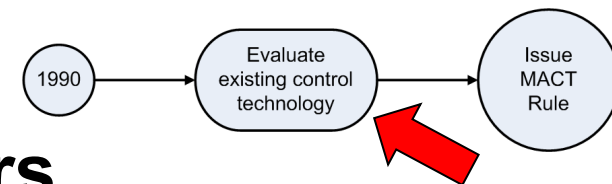
Blue Skies Delaware; Clean Air for Life



Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 1

Identified existing control technologies in use that reduced the emissions of HAPs

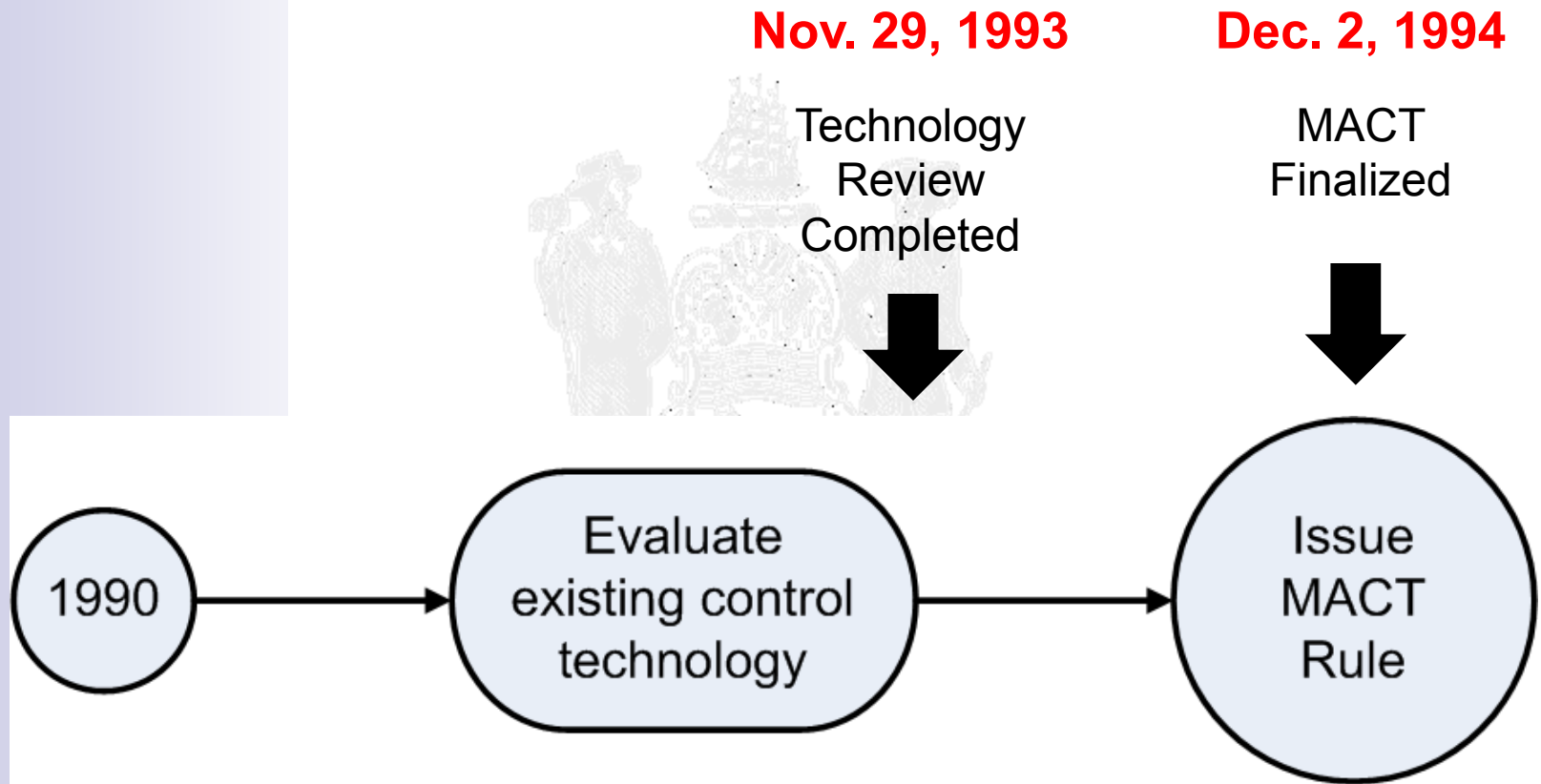


- **Equipment design parameters**
(Machine covers, freeboard ratio, etc)
- **Control techniques and devices**
(Primary & secondary chillers, carbon adsorbers, superheated vapor, dwell, etc)
- **Best management practices**
(Vapor-tight containers, eliminate drafts, etc)



Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 1



MACT – Maximum Achievable Control Technology
Blue Skies Delaware; Clean Air for Life



Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T

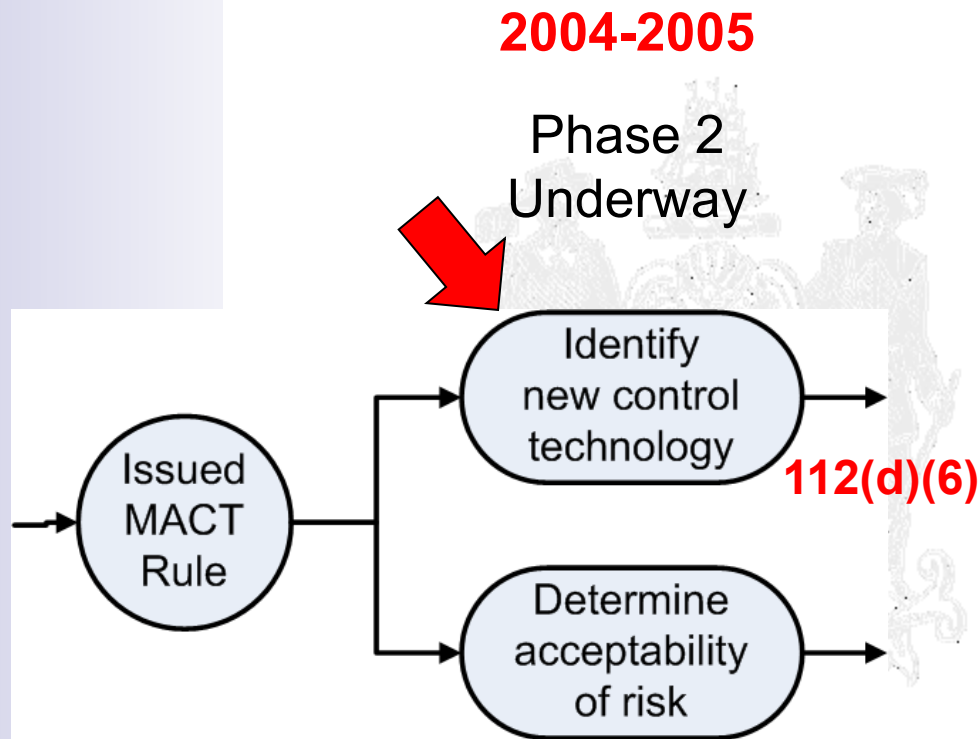
PHASE 1  PHASE 2



Blue Skies Delaware; Clean Air for Life

Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 2



MACT – Maximum Achievable Control Technology

Blue Skies Delaware; Clean Air for Life



Federal Halogenated Solvent Cleaning Rule

PHASE 2 Review

112(d)(6) Technology Review requires EPA to

- **Review** the technology-based (MACT) standard
- **Revise** the MACT standard “as necessary” after considering changes in
 - Processes
 - Work practices
 - Control technologies



Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 2

112(d)(6) Technology Review

EPA **determined** there had been **no notable** developments since 1994 with related to

- Solvent cleaning processes
- Solvent cleaning work practices
- Control technologies

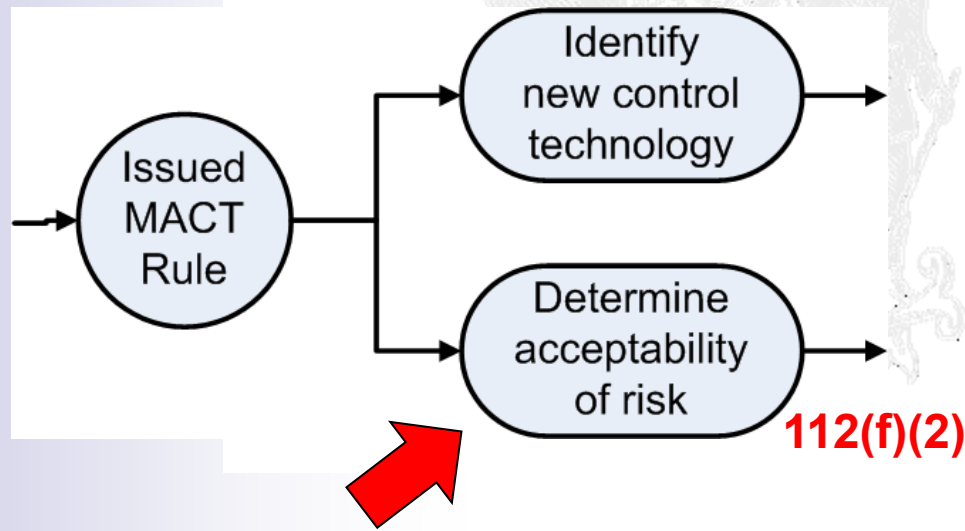


Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 2

2004-2005

Phase 2
Underway



Blue Skies Delaware; Clean Air for Life

Federal Halogenated Solvent Cleaning Rule

PHASE 2 Review

112(f)(2) Risk Review requires EPA to

- **Determine** whether the MACT standard protects public health with an ample margin of safety.
- **Promulgate** residual risk standards for the source category as necessary to provide an ample margin of safety.



Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 2

112(f)(2) Risk Review

EPA **determined** that following the full implementation of the MACT standard

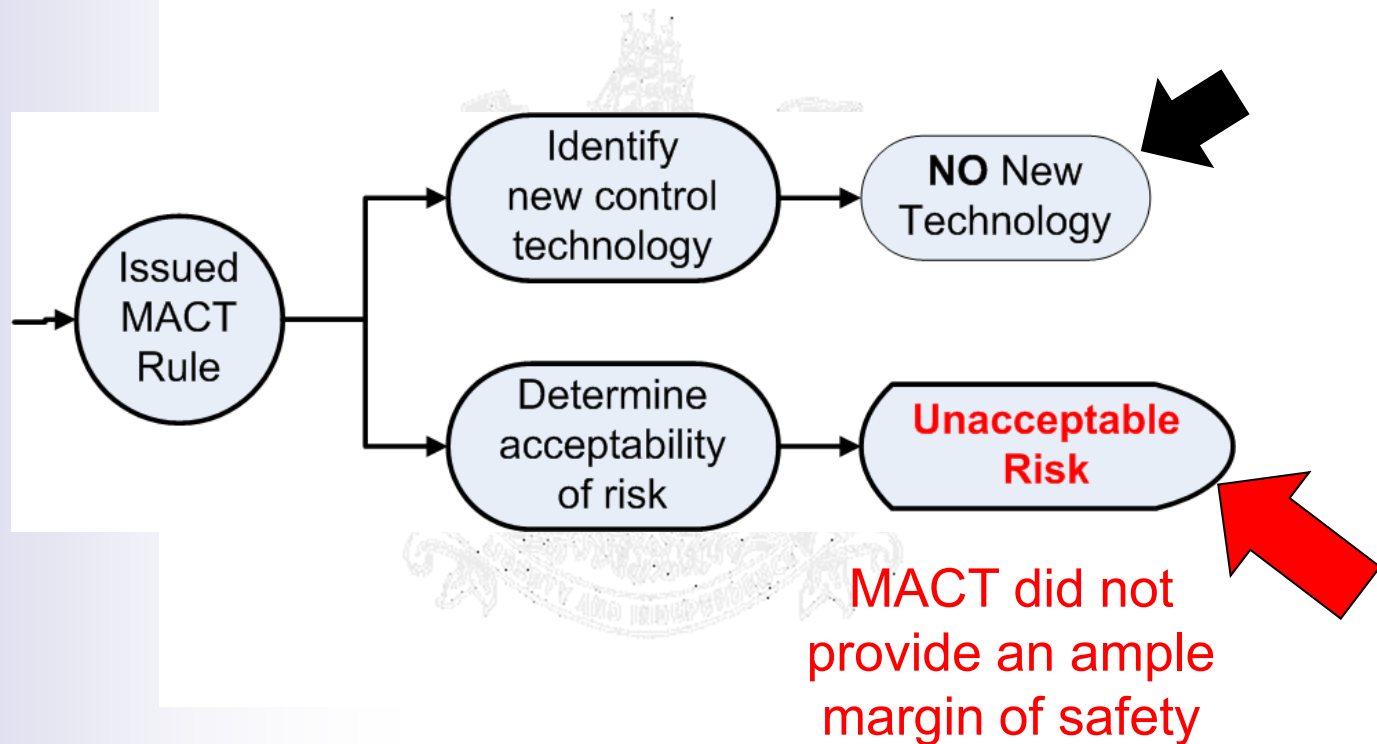
- ~95% of the people were exposed to a cancer risk of less than 10 in a million
- But 90 persons were exposed to cancer risk greater than 100 in a million
- Some to cancer risk greater than 200 in a million



Federal Halogenated Solvent Cleaning Rule

40 CFR Part 63 Subpart T - PHASE 2

Phase 2 Review Results



Federal Halogenated Solvent Cleaning Rule

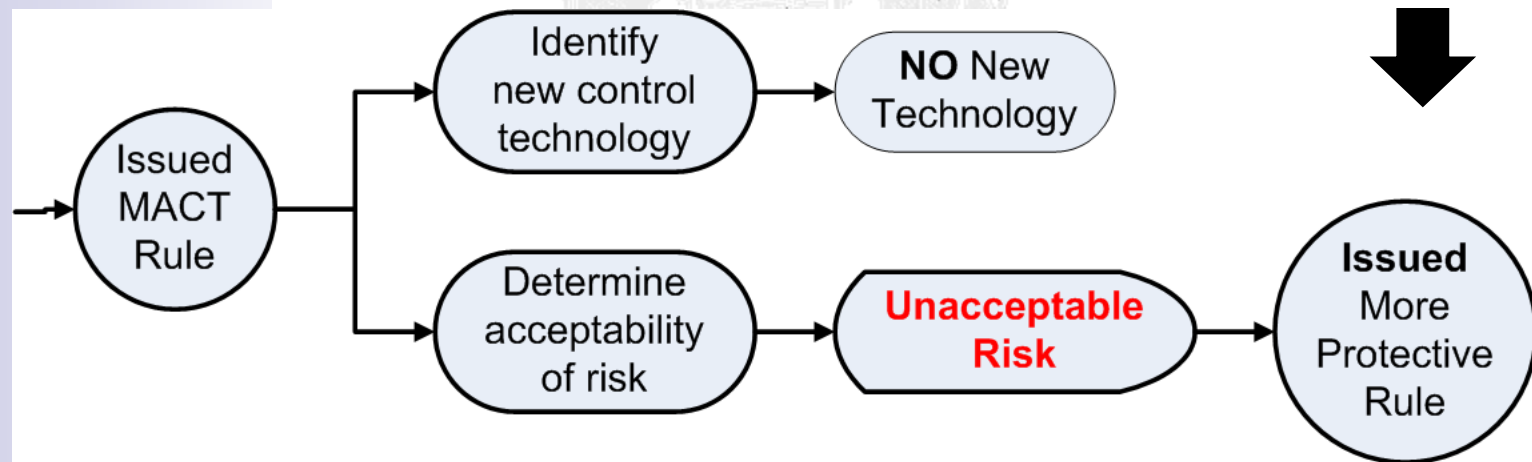
40 CFR Part 63 Subpart T - PHASE 2

Aug. 17, 2006

Technology
& Risk
Reviews
Completed

May 3, 2007

Sub T
Revision
Finalized



Regulating Hazardous Air Pollutants

**In
Delaware**

**Air
Regulation
1138**



Blue Skies Delaware; Clean Air for Life

Delaware's Regulation of Halogenated Solvent Cleaning

EPA

DNREC

40 CFR Part 63 Subpart T

Reg. 1138 Section 8.0

Dec. 2, 1994

**Technology-based
MACT Standard**

Nov. 1, 2001

May 3, 2007

**Risk-based
Standard**

**Current Action
under SAN 2010-24**



New emission limits

TCE

Facility-wide 12-month rolling
total solvent emission **limits**
applicable to **affected facilities**

MeCl

Perc

Perc / TCE / MeCl



Proposed changes to Section 8.0

- **None** of the original MACT standard requirements have changed
- **Additional requirements**
 - Facility-wide 12-month rolling total solvent **emission limits**
 - Monthly **monitoring**
 - Monthly **compliance demonstration**
 - Initial **notifications**
 - Annual **reporting**
 - **Recordkeeping**



Facility-wide emission limits

Table 8-7

Facility-wide 12-month rolling total emission limits	
Solvent emitted	General population solvent cleaning machines (kilograms per rolling 12 months)
Perchloroethylene	4,800
Trichloroethylene	14,100
Methylene chloride	60,000



Monitoring Requirements

For each solvent cleaning machine subject to a facility-wide emission limit - - -

- Record **clean** solvent additions
- Record **liquid** solvent deletions
- Record **solid** waste deletions
- Determine the overall **solvent content** of solid wastes deleted

Solvent Cleaning Machine - CM - 1

Solvent Handling Log Sheet

Date	"Clean" Solvent Additions (Gallons)	Liquid Solvent Deletions (Gallons)	Solid Waste Deletions (Gallons)	Solid Waste Method 25d Results (Percent)
5/18/11	100	40		
5/19/11	30		20	40%
5/20/11	220	60		
6/1/11	150		20	40%
Monthly Totals	500	100	40	
6/9/11	100			
6/12/11	100	40		
6/15/11	50		30	40%
6/29/11	100	60		
7/1/11	50		30	40%
Monthly Totals	400	100	60	
7/12/11	60	50		
7/15/11	40		30	40%
7/18/11	110	100		
7/26/11	60	50		
8/1/11	30		20	40%
Monthly Totals	300	200	50	
8/10/11	70	70		
8/15/11	30		30	
8/25/11	80	80		
9/5/11	20		10	
Monthly Totals	200	150	40	

Emissions = Additions less Deletions



Monitoring Requirements

On the first operating day of each month - -

- Determine the **facility-wide 12-month rolling total HAP solvent emissions** (**ET_{facility}**) for the most recent 12 months using Equation 8-12

$$ET_{\text{facility}} = \sum_{j=1}^i ET_{\text{unit}} \quad (\text{Eq. 8-12})$$

All Solvent Cleaning Machines
Monthly Material Balance Calculations

Date	12-month Rolling Solvent Emissions			Facility-wide 12-month Rolling Total Solvent Emissions (Kilograms)
	CM - 1 ET _{unit} (kilograms)	CM - 2 ET _{unit} (kilograms)	CM - 3 ET _{unit} (kilograms)	ET _{facility} = $\sum ET_{\text{unit}}$
5/1/11	12668	189	76	12933
6/1/11	12390	185	74	12649
7/1/11	12703	190	76	12969
8/1/11	13791	206	82	14079
9/1/11	14308	214	85	14607
10/1/11	13461	201	80	13742

Solvent Used = Trichloroethylene



Compliance Demonstration Requirements

On the first operating day of each month - - -

- Compare the **facility-wide 12-month rolling total HAP solvent emissions (ET_{facility})** to the applicable facility-wide emission limit in Table 8-7

Monthly Compliance Determination

Compliance versus Exceedance

Facility-wide Emissions

Date	12-month Rolling Solvent Emissions			Facility-wide 12-month Rolling Total Solvent Emissions (kilograms)
	CM - 1 (kilograms)	CM - 2 (kilograms)	CM - 3 (kilograms)	$ET_{\text{facility}} = \sum_{i=1}^{12} ET_{\text{month}}$
5/1/11	12666	189	76	12931
6/1/11	12390	185	74	12649
7/1/11	12703	190	76	12969
8/1/11	13791	206	82	14079
9/1/11	14308	214	85	14607 ←
10/1/11	13461	201	80	13742

VS

Facility-wide emission limit

Facility-wide 12-month rolling total emission limits	
Solvent Emitted	General population solvent cleaning machines (kilograms per rolling 12 months)
Perc only	4,800
TCE only	14,100 ←
MeCl only	60,000
Multiple solvents - Calculate in MeCl equivalents	60,000



Compliance Demonstration Requirements

On the first operating day of each month - - -

- Compare the **facility-wide 12-month rolling total HAP solvent emissions** (**ET_{facility}**) to the applicable facility-wide emission limit in Table 8-7

Table 8-7

Facility-wide 12-month rolling total emission limits	
Solvent emitted	General population solvent cleaning machines (kilograms per rolling 12 months)
Perchloroethylene	4,800
Trichloroethylene	14,100
Methylene chloride	60,000



Notification Requirements

- Initial notification
- Initial statement of compliance

Initial Notification
For additional facility-wide requirements applicable to affected facilities
Regulation 1138 - Section 8
Emission Standards for Halogenated Solvent Cleaning

Submittal Date: This "Initial Notification" must be submitted no later than November 11, 2011 or 90 days after the affected facility's initial start-up, whichever is later.

(1) Name of the facility: Marco Heating Inc.

(2) Physical location: Street Address: 278 Deane Road
City, State, Zip Code: Meriden CT 06468
Address where any compliance records are kept, if different than the physical location:
Street Address:
City, State, Zip Code:

(3) Name of Owner or Operator: Gilbert Stuart
Mailing Address: P.O. Box 1503
City, State, Zip Code: Meriden CT 06468-1503

(4) Provide the initial notification date and an estimate of the annual halogenated HAP solvent consumption for each solvent cleaning machine subject to the additional facility-wide requirements applicable to affected facilities. Estimated annual halogenated HAP solvent consumption (kilograms per year)

Chemical	Initial notification date	Estimated annual halogenated HAP solvent consumption
CHL-1	12/14/2004	15,000
CHL-2	6/17/1996	200
CHL-3	5/21/1996	100

(5) Provide a brief description of all solvent cleaning machines subject to the additional facility-wide requirements applicable to affected facilities in the space provided on page 2 of this form.

(6) I certify that all the information contained in this notification is true, accurate, and complete.

Signature: Gilbert Stuart Date: Nov. 1, 2011

Title/Position: Plant Manager Telephone No.: 203-238-1224

Email Address: GStuart@marchoheating.com

Printed Name: Gilbert Stuart

The owner or operator must submit this "Initial Notification" form to the following agencies by the submittal date provided above. Remember to keep a copy of this notification.

Delaware Department of Natural Resources and Environmental Control Division of Air Quality Blue Sky Corporate Mail 475 S. New Road, Suite 200 Dover, DE 19901	U.S. Environmental Protection Agency Division, Air Protection Division 600 Rock Street Philadelphia, PA 19103
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Page 1 of 2

Initial Statement of Compliance
For additional facility-wide requirements applicable to affected facilities
Regulation 1138 - Section 8
Emission Standards for Halogenated Solvent Cleaning

Submittal Date: This "Initial Statement of Compliance" must be submitted no later than November 11, 2011 or 90 days after the affected facility's initial start-up, whichever is later.

(1) Name of the facility: Marco Heating Inc.

(2) Physical location: Street Address: 278 Deane Road
City, State, Zip Code: Meriden CT 06468
Address where any compliance records are kept, if different than the physical location:
Street Address:
City, State, Zip Code:

(3) Name of Owner or Operator: Gilbert Stuart
Mailing Address: P.O. Box 1503
City, State, Zip Code: Meriden CT 06468-1503

(4) Provide results of the first facility-wide 12-month rolling total halogenated HAP solvent emissions calculation. Initial facility-wide 12-month rolling total halogenated HAP solvent emissions: 12,221 kilograms

(5) List each of the information contained in this notification is true, accurate, and complete.

Signature: Gilbert Stuart Date: Nov. 1, 2011

Title/Position: Plant Manager Telephone No.: 203-238-1224

Email Address: GStuart@marchoheating.com

Printed Name: Gilbert Stuart

The owner or operator must submit this "Initial Notification" form to the following agencies by the submittal date provided above. Remember to keep a copy of this notification.

Delaware Department of Natural Resources and Environmental Control Division of Air Quality Blue Sky Corporate Mail 475 S. New Road, Suite 200 Dover, DE 19901	U.S. Environmental Protection Agency Division, Air Protection Division 600 Rock Street Philadelphia, PA 19103
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Page 1 of 1



Reporting Requirements

- Annual Solvent Emissions Report
- Facility-wide Exceedance Report

Annual Solvent Emissions Report
For additional facility-wide requirements applicable to affected facilities
Regulation 1138 - Section 8
Emission Standards for Halogenated Solvent Cleaning

Scheduled Date: The "Annual Solvent Emissions report" must be submitted on or before the date specified in the table below, depending on the end of the reporting period.

(1) Name of the facility: Micro-Sterilizing, Inc.

(2) Physical location - Street Address: 219 Duncan Road
City, State, Zip Code: Wilmington, DE 19808
Address where any compliance records are kept, if different than the physical location:
Name Address:
City, State, Zip Code:

(3) Name of Owner or Operator: Gilbert Stuart
Building Address: P.O. Box 1303
City, State, Zip Code: Wilmington, DE 19808-1303

(4) Identify the reporting period covered by this "Annual Solvent Emissions Report":
January 1 to December 31, 2011

(5) Provide average monthly halogenated HAP solvent consumption for the reporting period.
Average monthly halogenated HAP solvent consumption for the affected facility: 15,802 Kilograms Monthly

(6) Provide the facility-wide 12-month rolling total halogenated HAP solvent emission calculated in each month of the reporting period.

Month	January	February	March	April	May	June	July	August	September	October	November	December
kg/month	12,931	12,931	12,931	12,931	12,931	12,931	12,931	12,931	12,931	12,931	12,931	12,931

(7) I certify that all the information contained in this notification is true, accurate, and complete.

Signature: Gilbert Stuart Date: Jan. 25, 2012
Title/Position: Plant Manager Telephone No: 302-475-1234
Email Address: GStuart@microsterilizing.com
Printed Name: Gilbert Stuart

(8) The owner or operator must submit this "Facility-wide Exceedance Report" form to the following agencies by the submittal date provided above on this form. (Remember to keep a copy of this report.)

Delaware Department of Natural Resources and Environmental Control Director of Air Quality Attn: Mr. Christopher Hall 101 N. Bay Road, Suite 101 Dover, DE 19901	U.S. Environmental Protection Agency Director, Air Protection Division 1615 N. Bay Road, Suite 101 Philadelphia, PA 19103
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Page 1 of 1

Facility-wide Exceedance Report
For additional facility-wide requirements applicable to affected facilities
Regulation 1138 - Section 8
Emission Standards for Halogenated Solvent Cleaning

Scheduled Date: The Facility-wide Exceedance Report must be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate.

(1) Name of the facility: Micro-Sterilizing, Inc.

(2) Physical location - Street Address: 219 Duncan Road
City, State, Zip Code: Wilmington, DE 19808

(3) Name of Owner or Operator: Gilbert Stuart

(4) Identify the reporting period covered by this Facility-wide Exceedance Report.
Check the appropriate reporting period date:

Calendar Half	Calendar Quarter	YEAR
January thru June	January thru March	July thru September
<input checked="" type="checkbox"/> July thru December	<input type="checkbox"/> April thru June	<input type="checkbox"/> October thru December

(5) During the reporting period identified in Item 4, did any facility-wide 12-month rolling total HAP solvent emissions (calculated using equation 8-12) exceed the applicable facility-wide 12-month rolling total HAP solvent emission limit provided in Table 8-7 of Regulation 1138?

Check appropriate box below:

☐ No, there were no exceedances of the applicable facility-wide 12-month rolling total HAP solvent emission limit during the reporting period.

☒ Yes, there were exceedances of the applicable facility-wide 12-month rolling total HAP solvent emission limit during the reporting period.

(6) If an exceedance of the applicable facility-wide 12-month rolling total HAP solvent emission limit was reported in Item 5, did Item 7 and complete Item 8 before submitting this report according with Item 9.

(7) List all exceedances of the applicable facility-wide 12-month rolling total HAP solvent emission limit was reported in Item 5, provide the information on each exceedance on page 2 (back of this page) and complete Item 8 before submitting this report according with Item 9.

(8) I certify that all the information and information contained in this report are true, accurate, and complete.

Printed Name: Gilbert Stuart Telephone No: 302-475-1234
Title/Position: Plant Manager
Email Address: GStuart@microsterilizing.com
Signature: Gilbert Stuart Date: Jan. 25, 2012

(9) The owner or operator must submit this "Facility-wide Exceedance Report" form to the following agencies by the submittal date provided above on this form. (Remember to keep a copy of this report.)

Delaware Department of Natural Resources and Environmental Control Director of Air Quality Attn: Mr. Christopher Hall 101 N. Bay Road, Suite 101 Dover, DE 19901	U.S. Environmental Protection Agency Director, Air Protection Division 1615 N. Bay Road, Suite 101 Philadelphia, PA 19103
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Page 1 of 2



Recordkeeping Requirements

- Records of all solvent additions and deletions
- Records of all calculations made to determine the monthly and facility-wide 12-month rolling HAP emissions
- Records associated with all submitted notifications and reports

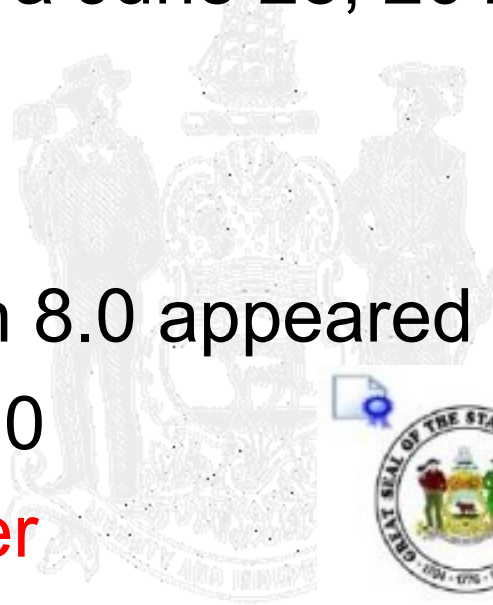


DNREC's Proposed Section 8.0

- Section 8.0 of Reg. 1138 draft was presented at a June 28, 2010 **public workshop**



- Proposed Section 8.0 appeared in the August 1, 2010 **Delaware Register of Regulations**



Office of the Registrar of Regulations,
Legislative Council,
State of Delaware



Errata Found in Proposed Section 8.0

The Department is recommending correction of several errata and other non-substantive changes



- For consistency with the Registrar's Style manual, to replace "~~must~~ shall"
- ***Revised proposed Section 8.0*** is included in hearing handouts, which shows these corrections



In closing
The Department
Would like to add



The Department Exhibits

The Department offers

- **34 exhibits** and asks that they be incorporated into the hearing record as DNREC Exhibits 1 through 34
- **DNREC Exhibit 1** provides a description of each of these exhibits
- **DNREC Exhibit 1** has also been included in public hearing handouts for the benefit of those attending tonight's public hearing



The Department's Exhibits Demonstrate

The Department has

- **Met all Statutory and Departmental** requirements throughout the amendment of Section 8.0
- **Maintained open communications** with the potential affected source throughout the amendment process
- **Provided the public** with complete, timely information through the Section 8.0 Regulatory Web Page



For the latest information,
follow the ongoing amendment on
Section 8.0 Regulatory Web Page

<http://www.dnrec.delaware.gov/whs/awm/Info/Regs/Pages/Section8.aspx>

